**Climate Smart
Forest Economy
Program**

Forest technology consultancy service

Through timber construction, there is a future in which forests can support cities and, in return, cities can support forests. As the global population increases, particularly in cities, the construction sector is expected to exponentially grow in order to accommodate the demand for housing and other infrastructure. Current construction techniques are a significant contributor to the global climate crisis and urgently need to be transformed. By substituting the carbon-intensive materials commonly used in construction with forest economy biomaterials, such as wood and bamboo which sequester carbon, we can create buildings with reduced carbon emissions. However, this timber construction industry is still in its nascency and there is a need to address its market gaps and leverage opportunities to accelerate its development and increase its uptake.

These interventions for the mass timber construction industry can be segmented into seven main categories of solutions that affect the value chain and enablers of the ecosystem. Through various internal and external discussions, Climate Smart Forest Economy Program (CSFEP) has categorized potential solutions as relating to i) Finance and insurance; ii) Product and process certifications; iii) Communication and awareness building; iv) Timber knowledge ecosystem; v) Forest management and timber policies; vi) Value chain linkages; and vii) Timber-based real estate. The proposed solutions can be executed as for-profit, philanthropic, or blended ventures, with the services developed as individual offerings or paired with complementary services in a single offering. Additionally, while some solutions may be set up as a free-standing entity, other solutions may be similar to services provided by existing actors in or adjacent to the CSFE sector. In the case of the latter, it may make sense to approach these existing providers as potential partners to find a suitable and effective home for needed services.

TIMBER KNOWLEDGE ECOSYSTEM

Actors across the climate-smart forest economy (CSFE) actors struggle to identify and utilize the latest technology to optimize their activities. Stakeholders have limited visibility and access to the technologies available for CSFE operational activities and a limited understanding of how best to utilize these technological solutions. The fast pace of change in technology further challenges the ability of actors to use relevant technologies. Additionally, the high cost of installation and maintenance of technological solutions is also a barrier to their adoption. The industry needs a service provider to help CSFE stakeholders navigate the technological landscape available to the industry.

A service provider dedicated to forest technology consultancy would increase the operational agility and efficiency of actors across the value chain. The firm would have three main objectives:
- Support greater adoption of technological solutions for CSFE actors
- Train and develop the skillset of CSFE actors to utilize these technologies
- Develop solutions tailored to the needs of CSFE actors
- Share knowledge of technological innovations with relevant stakeholders

There are many examples of technologies that have the potential for scaled awareness, use, and impact for CSFE actors. There are niche technological developments available in the CSFE ecosystem that stakeholders may not be knowledgeable of or know how to access. For example, TREEO uses smartphones to allow smallholder farmers to monitor their trees and monetize the carbon benefits gained. This technology could be similarly used for actors in the CSFE ecosystem. Also focused on the forestry part of the value chain, Southern Forestry Consultants (SFC) offers web GIS and forestry technologies including satellite remote sensing and cloud-managed services. Using the latter, stakeholders are able to make use of the full

potential of consumer devices, accessing or updating authoritative business information like tracts, maps, or land history. The organization also offers forestry consultancy services for the use of technologies to its clients. These organizations, when operating on the global stage, could connect more clients to the latest in technology development for the industry, and expand their services to other segments of the value chain as well.

In order to provide this technology consultancy comprehensively across the CSFE value chain, the firm should provide a number of services, including:

- Educating local CSFE actors on the technologies available that can benefit their specific operations (e.g. innovative sensors and improved monitoring to develop new pest control strategies, precision machinery for tillage to reduce soil carbon loss, pre-fabrication of CLT for wood construction, etc.)
- Supporting the skills development of CSFE actors to utilize technology solutions
- Enabling CSFE actors to better tap into carbon finance by improving their monitoring and tracking of forestry activities
- Supporting actors in finding or developing suitable funding mechanisms to obtain the required technology
- Optimizing existing design technologies to take advantage of improved wooden products such as prefabricated CLT
- Developing new technologies or adapting existing tech to meet the needs of CSFE, where solutions don't currently exist

If you would like to know more about how different technologies are improving CSFE activities, you can reach out to Southern Forestry Consultants and TREEO.